

**ABSTRACT**

Transducer (100, 200, 300, 500, 600) for converting mechanical vibrations to an electrical signal and/or for converting an electrical signal to mechanical vibration. Damping liquid (122, 222, 522, 622) damps the relative vibration of transducer components (110, 250, 252, 254, 510, 610). The damping liquid can be selected to optimize the sound quality of acoustic vibrations at the point of transduction. Also, a transducer with components that rotate relative to each other (304, 310, 504, 510, 604, 610). For example, a permanent magnet component may simultaneously vibrate rotationally and linearly with respect to an electric signal carrying coil. The characteristics of the rotational vibration may be adjusted to optimize sound quality of acoustic vibrations at the point of transduction.